Claims

1. A secondary seal element including a base body (12) made of a synthetic material, said base body comprising a base portion (13) and a seal portion (14), said base and seal portions including coaxially aligned, axially adjacent through bores (17, 31) for the passage of a component, and an annular disc element (25) accommodated in said base portion and including a through bore (30) coaxially aligned with the through bores in the base and seal portions, said annular disc element being formed of a material which differs from that of the base body, characterized in that, in the unloaded state, the through bore (30) of said annular disc element (25) has a radial dimension d which is greater than that D_2 of the through bore (31) of said seal portion (14) and smaller than that D_1 of said base portion (13) of the base body (12), and in that the material of the annular disc element comprises a carbon material.

2. The secondary seal element according to claim 1, characterized in that the annular disc element (25) is provided in a recess (24) in an end face (15) of the base portion (13) and projects axially beyond the end face.

3. The secondary seal element according to claim 1, characterized in that the synthetic material of the base body (12) comprises PTFE.

4. The secondary seal element according to claim 1, 2 or 3, characterized in that the seal portion (14) comprises a pair of radially spaced resilient web elements (19, 20) having opposed outwardly directed sealing surfaces (22, 23).

5. The secondary seal element according to claim 4, characterized by means (32) for radially expanding the web elements (19, 20) in a resilient manner.

6. The secondary seal element according to any of the preceding claims, characterized in that the base portion (13) has an essentially rectangular cross section.

7. A mechanical face seal device comprising a pair of cooperating seal rings (3,4) of which one is urged towards the other by an axial bias force and is axially moveably disposed on a sleeve (18), characterized in that, for the purpose of sealing said one sealing seal ring (3) with respect to the sleeve (18), a secondary sealing element (10) according to any of the claims 1 to 7 is provided in a thrust ring (5) seated on the sleeve in axially moveable manner for transmitting said bias force, wherein the sleeve is formed of a material having a coefficient of thermal expansion which essentially corresponds to that of the carbon material of the annular disc element (25).

8. The mechanical face seal device according to claim 7, characterized in that the sleeve (18) is formed of tungsten carbide.